

<b>Notice of Allowability</b>	<b>Application No.</b>	<b>Applicant(s)</b>	
	10/632,562	PHILLIPS ET AL.	
	<b>Examiner</b>	<b>Art Unit</b>	
	Erica E Cadugan	3722	

**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--**

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to att'y. dkt. no. PTG 02-80-2, filed 7/31/03 and interview of 1/27/04.
2. ☒ The allowed claim(s) is/are 1-48.
3. ☒ The drawings filed on 31 July 2003 are accepted by the Examiner.
4. ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
  - a) ☐ All    b) ☐ Some\*    c) ☐ None    of the:
    1. ☐ Certified copies of the priority documents have been received.
    2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
    3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

\* Certified copies not received: \_\_\_\_\_.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.

**THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.**

5. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
  6. ☐ CORRECTED DRAWINGS ( as "replacement sheets" ) must be submitted.
    - (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review ( PTO-948) attached
      - 1) ☐ hereto or 2) ☐ to Paper No./Mail Date \_\_\_\_\_.
    - (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date \_\_\_\_\_.
- Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).**
7. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

**Attachment(s)**

- |  |  |
|--|--|
| 1. <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)  | 5. <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)            |
| 2. <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)   | 6. <input type="checkbox"/> Interview Summary (PTO-413),<br>Paper No./Mail Date _____. |
| 3. <input checked="" type="checkbox"/> Information Disclosure Statements (PTO-1449 or PTO/SB/08),<br>Paper No./Mail Date <u>9/15/03, 6/24/04</u> | 7. <input checked="" type="checkbox"/> Examiner's Amendment/Comment                    |
| 4. <input type="checkbox"/> Examiner's Comment Regarding Requirement for Deposit<br>of Biological Material                                       | 8. <input checked="" type="checkbox"/> Examiner's Statement of Reasons for Allowance   |
|  | 9. <input type="checkbox"/> Other _____.   |

### EXAMINER'S AMENDMENT

1. An examiner's amendment to the record appears below. Should the changes and/or additions be unacceptable to applicant, an amendment may be filed as provided by 37 CFR 1.312. To ensure consideration of such an amendment, it MUST be submitted no later than the payment of the issue fee.

Authorization for this examiner's amendment was given in a telephone interview with Kevin West on January 27, 2005.

2. The application has been amended as follows:

In claim 8, line 1, "claim 2" has been changed to --claim 3--.

In claim 11, line 1, "system" has been changed to --assembly--.

Claim 12 (Currently Amended). The bit retaining assembly as claimed in claim 1, wherein the planetary gear system comprises:

a plurality of planet gear assemblies for transmitting the torque between the housing member and the nut, each of the planet gear assemblies including a large planet gear fixedly coupled to a small planet gear [so that the large planet gear and the small planet gear];

first and second carriers coupled together for capturing the planet gear assemblies there between; and

an output gear coupled to the nut for transmitting torque from the planet gear assemblies to the nut.

In claim 20, line 1, "claim 14" has been changed to --claim 15--.

In claim 23, line 1, "system" has been changed to --assembly--.

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Claim 24 (Currently Amended). The bit retaining assembly as claimed in claim 13, wherein the planetary gear system comprises:

a plurality of planet gear assemblies for transmitting the torque between the housing member and the nut, each of the planet gear assemblies including a large planet gear fixedly coupled to a small planet gear [so that the large planet gear and the small planet gear];

first and second carriers coupled together for capturing the planet gear assemblies there between; and

an output gear coupled to the nut for transmitting torque from the planet gear assemblies to the nut.

In claim 32, line 1, "claim 26" has been changed to --claim 27--.

Claim 33 (Currently Amended). The [bit retaining assembly] rotary tool as claimed in claim 32, wherein the housing member comprises a ring gear.

Claim 34 (Currently Amended). The [bit retaining assembly] rotary tool as claimed in claim 32, wherein the housing member comprises a sun gear.

Claim 36 (Currently Amended). The rotary tool as claimed in claim 25, wherein the planetary gear system comprises:

a plurality of planet gear assemblies for transmitting the torque between the housing member and the nut, each of the planet gear assemblies including a large planet gear fixedly coupled to a small planet gear [so that the large planet gear and the small planet gear];

first and second carriers coupled together for capturing the planet gear assemblies there between; and

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an output gear coupled to the nut for transmitting torque from the planet gear assemblies to the nut.

In claim 44, line 1, "claim 38" has been changed to --claim 39--.

Claim 47 (Currently Amended). The bit retaining [system] assembly as claimed in claim 44, wherein the chuck comprises a plurality of gear teeth for engaging the large planet gear.

Claim 48 (Currently Amended). The bit retaining assembly as claimed in claim 37, wherein the planetary gear system comprises:

a plurality of planet gear assemblies for transmitting the torque between the housing member and the nut, each of the planet gear assemblies including a large planet gear fixedly coupled to a small planet gear [so that the large planet gear and the small planet gear];

first and second carriers coupled together for capturing the planet gear assemblies there between; and

an output gear coupled to the nut for transmitting torque from the planet gear assemblies to the nut.

3. The following is an examiner's statement of reasons for allowance:

U.S. Patent Application Publication 2004/0222600 to Jacobs et al., U.S. Pat. No. 4,260,169 to Hall, and U.S. Pat. No. 2,326,322 to Bell are representative examples of the closest art of record to the present invention as set forth in independent claims 1, 13, 25, and 37.

Re Jacobs et al., Jacobs et al. was filed on May 9, 2003 and published on November 11, 2004. It is noted that the present application was filed on July 31, 2003 and claims priority under 119(e) to (and also incorporates by reference) a prior provisional application that was filed on July 31, 2002. Thus, any claims in the present application which are supported by the

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provisional application have an effective filing date of July 31, 2002, which is prior to the earliest effective date (May 9, 2003) of the Jacobs published application. It appears that the only claims that might possibly not be fully supported by the provisional application (which claims would thus potentially, if not fully supported, have an effective filing date of July 31, 2003, which is after the earliest effective date of the Jacobs reference) are claims 6-7, 12, 18-19, 24, 30-31, 36, 42-43, and 48. (Specifically, re claims 6, 18, 30, and 42, the provisional application does not appear to teach that the nut is nested in the output gear, nor that the output gear includes a projection engaging the nut for turning the nut, and specifically re claims 12, 24, 36, and 48, the provisional application does not appear to teach the “first and second carriers coupled together for capturing the planet gear assemblies there between”, for example).

Thus, considering those claims (6-7, 12, 18-19, 24, 30-31, 36, 42-43, and 48) with respect to the Jacobs reference, Jacobs teaches a base member or “chuck” 24 that couples to the motor shaft 14 via threads 28 to rotatably drive a tool bit 22 (see Figures 1-3). Collet tube or “collet” 52 is disposed in the “chuck” 24 (see Figures 3-5) and has an axial bore 54 for receiving the tool bit (see paragraph 0030 as well as Figures 3-5, for example). Member 50 is threaded “onto” the chuck 24 via threads 66, 64 (Figures 3, 5), and is thus considered a “nut”. Grip sleeve 40 receives a torque from a user (see paragraphs 0030-0033), and is thus considered the claimed “housing”. Additionally, the “housing” 40 is centrally fixed to a sun gear 38 (see paragraph 0028 and Figures 3 and 5) such that rotation of the “housing” 40 causes the sun gear 38 to transmit torque to planet gears 34, which transmit torque to a toothed inner portion of “nut” 50 to cause the nut 50 to rotate (Figures 3-5, paragraphs 0028-0033) “on” the “chuck” 24, which rotation of the “nut” 50 causes the “nut” 50 (via threads 66, 64) to move axially relative to the

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“chuck” 24, thereby tightening or loosening the “collet” 54 on the tool bit via the wedging of surfaces 56, 58 (Figures 3-5, paragraphs 0028-0033). Note also that Jacobs explicitly teaches that the planetary gear system amplifies the applied torque (see paragraphs 0012 and 0033).

Re claim 5, any one of the sun gear 38 or one of the planet gears 34 is, at least ultimately, “coupled” to the “nut” 50 to transmit torque from the planetary gearing to the “nut” 50, and thus can be considered the claimed “output gear”.

Re claim 6 (and claims 18, 30, and 42, and thus claims 7, 19, 31, and 43), however, it is noted that the “nut” 50 is not “nested in” any of these gears that could be considered the claimed “output gear”.

For at least this reasoning, Jacobs does not anticipate the present invention as set forth in any of claims 6-7, 18-19, 30-31, and 42-43.

Additionally, even assuming arguendo that such a modification would not change the principle of operation of the Jacobs device, there is no combinable teaching in the prior art of record that would reasonably motivate one having ordinary skill in the art to so modify the teachings of Jacobs, and thus, Jacobs et al. does not render obvious the present invention as set forth in any of claims 6-7, 18-19, 30-31, and 42-43.

Regarding claim 12 (and claims 24, 36, and 48), Jacobs does not teach a plurality of planet gear assemblies each including “a large planet gear fixedly coupled to a small planet gear”.

For at least this reasoning, Jacobs does not anticipate the present invention as set forth in any of claims 12, 24, 36, and 48.

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Additionally, even assuming *arguendo* that such a modification would not change the principle of operation of the Jacobs device, there is no combinable teaching in the prior art of record that would reasonably motivate one having ordinary skill in the art to so modify the teachings of Jacobs, and thus, Jacobs et al. does not render obvious the present invention as set forth in any of claims 12, 24, 36, and 48.

Regarding Hall, Hall teaches a keyless chuck for attaching a drill bit to the rotary shaft of a drill, wherein a planetary gearing system is utilized in the torque transmission to open and close the chuck (see abstract and Figures 1-3, for example). However, in the device taught by Hall, the chuck is composed of a number of separate jaw members 19 (see Figures 1, 4, and 5, and col. 2, lines 35-41, for example) rather than a “collet” as claimed.

[An example of an art-recognized definition for “collet” can be found in the U.S. Manual of Classification in the Class Definitions for Class 279 (Chucks or Sockets), which defines a collet as “a generally cylindrical sleeve which has jaws for gripping defined thereon by circumferentially spaced longitudinal slits”.]

For at least this reasoning, Hall does not anticipate the present invention as set forth in any of the independent claims.

Additionally, to so modify the teachings of Hall would change the principle of operation of Hall’s invention. If the proposed modification or combination of the prior art would change the principle of operation of the prior art invention being modified, then the teachings of the references are not sufficient to render the claims *prima facie* obvious. *In re Ratti*, 270 F.2d 810, 123 USPQ 349 (CCPA 1959). See also MPEP Section 2143.01. Also, there is no combinable teaching in the prior art of record that would reasonably motivate one having ordinary skill in the

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art to so modify the teachings of Hall, and thus, Hall does not render obvious the present invention as set forth in independent claims.

Re Bell, Bell teaches a machine tool including a “rotor shaft” 5 that is coupled to a “chuck” 4 (“chuck” 4 includes parts 30 and 31). Collet 2 is disposed within the “chuck” 4 (see Figure 2). Members 6 and 7 receive a slowing “torque” from an operator (Figures 1, 2, 3, and page 1, right column, lines 40-45), and thus constitute a “housing”. Bell also teaches a planetary gear system, including planet gears 59, 60, 74 (Figures 2-3), a toothed collar 61 that functions as a sun gear (Figure 3), and internal ring gears 44, 45 (Figure 3). Application of force to the “housing” 6, 7, transmits torque to the planetary gearing system, rotating toothed collar or sun gear 61, which, via a threaded connection (see Figure 2) results in the axial movement of the collet 2, which, via mating wedged portions 85 and 86, opens and/or closes the collet (see Figure 2).

However, note that collar 61 is threaded onto the collet 2 (Figure 2), and not “onto the chuck” 4 as set forth in the independent claims. Also, the described planetary gear system does not transmit any torque to the nut “for rotating the nut on the chuck” (rotates the nut on the collet) as set forth in the independent claims.

Thus, for at least the foregoing reasoning, the Bell does not anticipate the present invention as set forth in the independent claims.

Additionally, to so modify the teachings of Bell would change the principle of operation of Bell’s invention. If the proposed modification or combination of the prior art would change the principle of operation of the prior art invention being modified, then the teachings of the references are not sufficient to render the claims *prima facie* obvious. *In re Ratti*, 270 F.2d 810,



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123 USPQ 349 (CCPA 1959). See also MPEP Section 2143.01. Also, there is no combinable teaching in the prior art of record that would reasonably motivate one having ordinary skill in the art to so modify the teachings of Bell, and thus, Bell does not render obvious the present invention as set forth in independent claims.

The aforementioned prior art being a representative example of the closest prior art of record to the present invention, for at least the foregoing reasoning, the prior art of record neither anticipates nor renders obvious the present invention as set forth in the claims.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

### ***Conclusion***

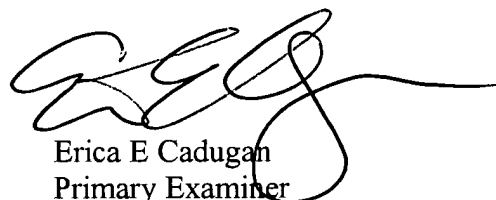
4. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

5. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Erica E Cadugan whose telephone number is (571) 272-4474. The examiner can normally be reached on M-F, 7:30 a.m. to 5:00 p.m., alternate Fridays off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Derris H. Banks can be reached on (571) 272-4419. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Erica E Cadugan  
Primary Examiner  
Art Unit 3722

eec  
January 27, 2005